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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,524	08/15/2006	Antonio Ponticiello	277613US0XPCT	6216
22850	7590	12/31/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TESKIN, FRED M	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			12/31/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/551,524	Applicant(s) PONTICIELLO ET AL.	
	Examiner Fred M. Teskin	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-21 is/are rejected.
- 7) ☒ Claim(s) 1 and 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20050930</u> . | 6) <input type="checkbox"/> Other: ____. |

Detailed Action

This Office action is responsive to application filed August 15, 2006. Claims 1-21 are currently pending and under examination herein.

Claim 1 is objected to because of the following informalities: in line 2, the word “polymeriting” is misspelled. Appropriate correction is required.

Claims 8 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the following grounds for indefiniteness apply to the indicated claims.

Regarding claim 8, the phrase “generally even over 10% lower than ...” creates uncertainty as to the limiting significance of the relative percent value. It is unclear whether expandable articles which otherwise meet the claim but have a thermal conductivity less than 10 % lower than that of “equivalent-expanded materials” are intended to be covered. Clarification at least by way of explanation is required.

Regarding claim 18, the phrase “vinyl aromatic polymer, as described above,” is ambiguous as it is unclear whether the “described above” language is intended to incorporate limitations from earlier claims notwithstanding that claim 18 is drafted in independent form. Further, the language “possible additives, such as...” is ambiguous and creates uncertainty as to whether the type of additive subsequently recited (flame retardant) is an exemplary or essential feature.

Regarding claim 20, the phrase "such as ..." renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0372343 in view of US 5382289 (Weaver).

EP '343 is directed to providing polystyrene foam and expandable particles of styrenic polymer containing from 1 to 25 wt-% carbon black having a particle size of from 10 to 100 nm, a surface area of 10 to 1500 m²/g and less than 2 wt-% volatiles (p.

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2, ll. 35+). The styrenic polymer can be produced by a suspension technique which gives a bead or pellet shaped product and can also be prepared by extrusion methods (p. 3, lines 22-30). Expandable polystyrene strand-cut particles are specifically disclosed, see Examples 12-45 on pages 4-7. The particles were produced by a continuous extrusion method wherein a carbon black-polystyrene concentrate was added to a heated extruder along with trichlorofluoromethane as blowing agent. Since the molten leaves the extruder in strand form (p. 4, lines 39-40), it is assumed to have been passed through a die. Examples 62-87 describe extruded foam containing a type I carbon black in amounts within the range specified in claim 1 for carbon black c). According to Table 1 of EP '343, type I carbon black meets the limitations of claims 1, 2, 8, 9, 18 and 19 as to particle size, surface area and dibutylphthalate (DBP) absorption.

EP '343 fails to disclose sulfur content or ash residue of the carbon black and does not state that the expandable particles contain the expanding agent englobed in the polymeric matrix as per claim 1. However, since the disclosed products were prepared by essentially the same process as claimed (*cf.*, claim 18), the extruded expandable particles of EP '343 are reasonably presumed to contain the requisite matrix-englobed expanding agent. As to sulfur and ash contents, Weaver in analogous art teaches the utility of low ash carbon blacks as fillers for rubbers and plastics including various styrene copolymers as detailed at column 5, lines 8+. Specific disclosure is provided to production of carbon blacks having sulfur and ash contents well within the ranges in claims 1, 9 and 18, as well as DBP absorption values as per claims 2, 9 and 19 (see Examples 1 and 2 in Table 4). Since Weaver teaches the low

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ash carbon black as utile in styrene copolymer compositions, there would have been a reasonable expectation of similar utility in the styrene polymers of EP '343. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a low ash carbon black as per Weaver to the styrene polymer in EP '343, motivated by the expectation of obtaining an equivalent expandable product.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Paquet et al and Ghidoni et al are cited to show analogous art, relating to carbon black-containing foam structures comprising styrene polymer and expandable vinyl aromatic polymers.

Claim 6 is objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim. Inclusion in the claimed polymers of a carbon black having the combination of properties specified in this claim is not disclosed nor adequately suggested in the available prior art.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred M Teskin/

Primary Examiner, Art Unit 1796